

Work Order ID 155260

Thursday, January 12, 2017 11:30:55 AM

646.3910**B155260*****155260***

Page 1

Item ID: 646.3910

Revision ID:

Item Name: Shim

Start Date: 1/13/2017 Start Qty: 10.00

Required Date: 1/31/2017 Req'd Qty: 10.00

Reference:

REV. N/C1

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan:

**DAS
21
9-89**Date: **JAN 12 2017**

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

646.3900

nc1

110

0.01

110

Waterjet

FLOW CNC Waterjet

Memo

1-Cut as per Dwg

Dwg Rev: _____

Prog Rev: _____

2-Deburr if necessary

0.05

(12)**01/17/02/03**

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Quality Control

Memo

0.02

(12)**01/17/02/03**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 155260***155260***

Page 2

Thursday, January 12, 2017 11:30:55 AM

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Accept

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Item Name: Shim

Start Date: 1/13/2017

Start Qty: 10.00

10

Cust Item ID:

Required Date: 1/31/2017

Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.03

Quality Control

DAS
38
9-89

FEB 07 2017

140

Outsource process-Cadplate per QSI017 4.1.9.1

0.00

140

Outsource3

Memo

399.98

Outsource process - Cad plate

Issue P/O: 35313
Cad Platting

12

FEB 15 2017

DAS
13
9-89

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.03

Packaging

Dx SP 17-024

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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Page 3

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Start Qty: 10.00

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Cust Item ID:

Required Date: 1/31/2017

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10

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2*****Sequence ID/
Work Center ID**

160

160

QC

Quality Control

**Operation
Description**

QC5- Inspect part completeness to step on W/O

**Set Up/
Run Hours**

0.00

Tool ID**Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**DAS
38
9-89

12

FEB 27 2017

Memo

0.03

170

170

Packaging

Packaging

Identify as per dwg & Stock Location: CCK106

0.00

Memo

0.02

***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND
REV***DAS
6
9-89

12

FEB 28 2017

180

180

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.17

17/2/28 J

DAS
21
9-89

FEB 28 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

Thursday, January 12, 2017 11:31:01 AM

Work Order ID: 155260

155260

Parent Item: 646.3910

646.3910

Parent Item Name: Shim

Start Date: 1/13/2017

Required Date: 1/31/2017

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV: A 12.12.23 NEW ISSUE DD VERF:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MC1095S.020		Purchased	No			110	sf	10.6000	0.03	0.31579			

MC1095S 020

C1095 Blue Tempered Spring Steel Sheet .020 mcmaster p/n: 9036K499

**

01/17/02/03

Location

Loc Qty

Loc Code

MAT019

10.6

M130477

0.1

M135525

10.5

5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	☐ OTHER : _____					
Misidentified ☐	☐ Past Due						



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05243

SHEET 1 OF 1

DWG NO. 646.3900

REV: N/C

PREPARED BY

J. BECKER

DATE: 11/13/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: SHIM

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: REVISED VIEWS. UPDATED TEMPLATE AND TITLE BLOCK.

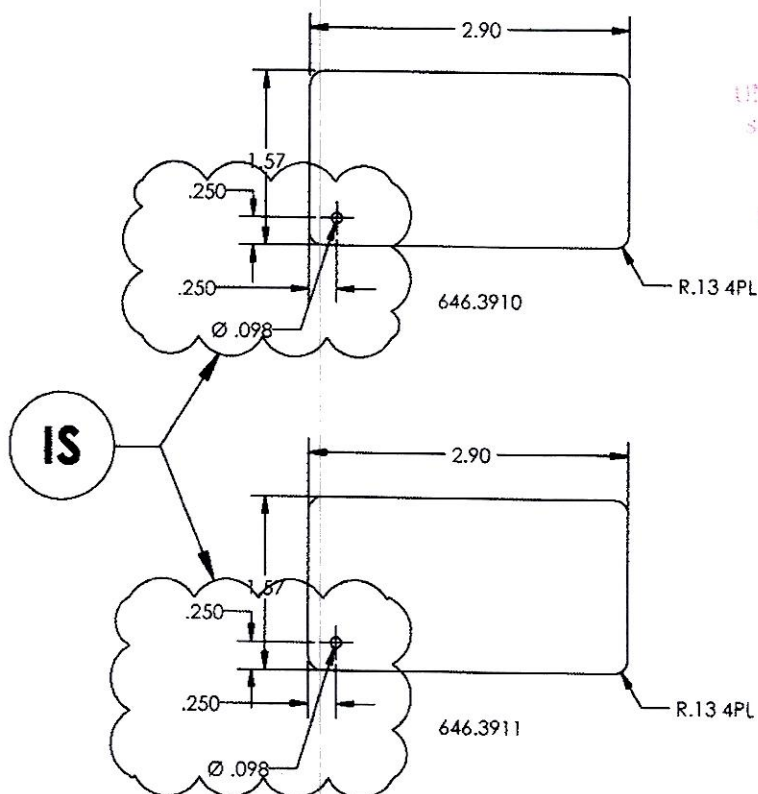
ECR:

15-275

ACTION ITEM:

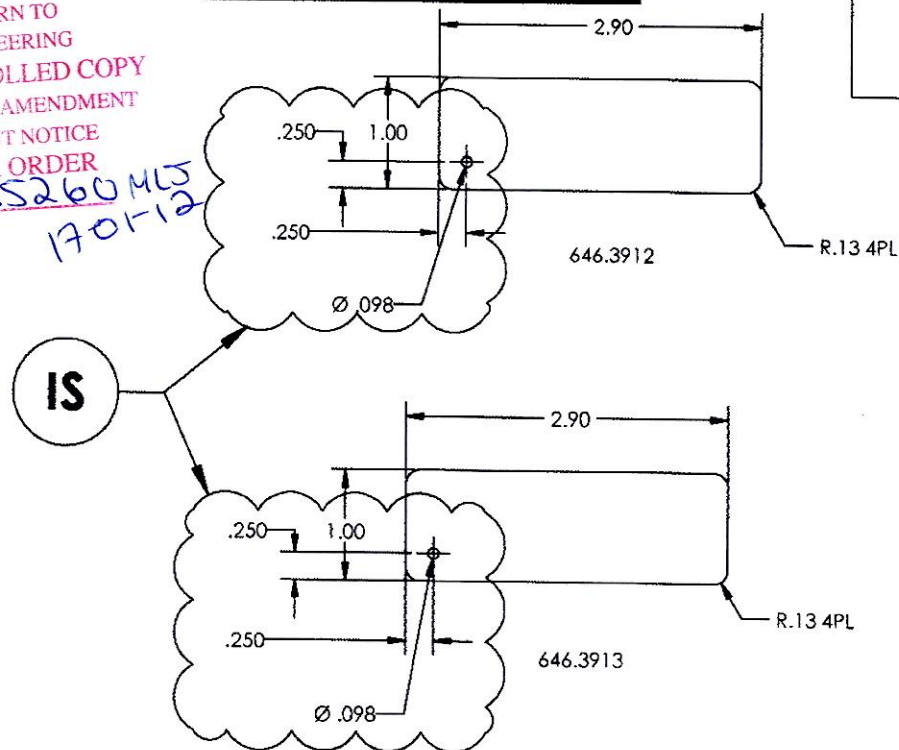
1. N/A.

SHEET 1, ZONE B2 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 155260 MLJ
170112

SHEET 1, ZONE B5 IS:



SHEET 1, ZONE C2 IS:

SHEET 1, ZONE C5 IS:

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

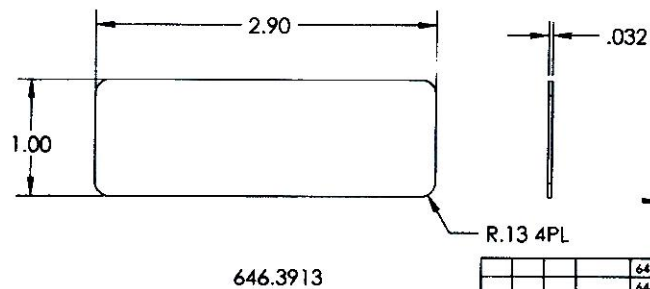
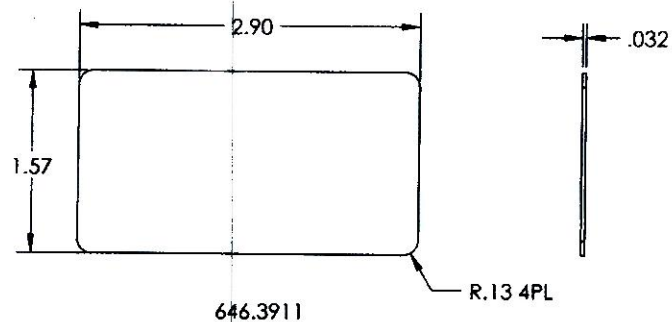
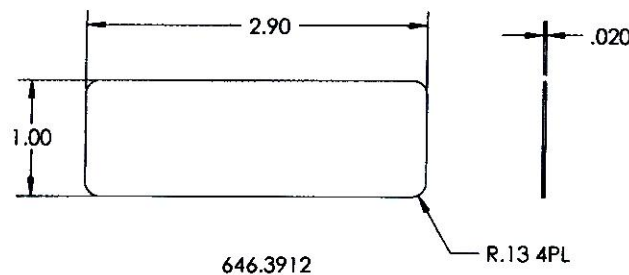
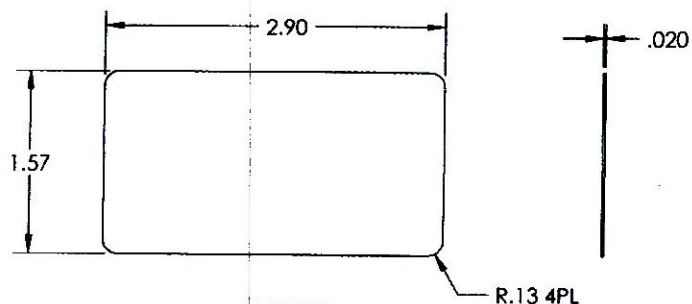
☐ YES ☒ NO

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

NOTES:

- 1 MATERIAL: SHIM STOCK, C1095 BLUE-TEMPERED SPRING STEEL
- 2 FINISH: CAD PLATE PER QQ-P-416 TYP II CL2
- 3 IDENTIFY IAW MPP-120



UNINCORPORATED ECN(s)

05243

		646.3913	SHIM	△	△
		646.3912	SHIM	△	△
		646.3911	SHIM	△	△
		646.3910	SHIM	△	△
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY	PARTS LIST				
NEXT ASSY (S)	APICAL INDUSTRIES				
646.4000	2608 TEMPLE HEIGHTS DR OCEANSIDE, CA, 92056-3512 17601724-5300				
	SHIM				
ORIGINAL DATE 05-03-08 DRAWN BY P. BRAVO 1. HUBB DRAWING APPROVAL P. BRAVO CONTRACT 740			REV CAGE CODE 07M6Z LOTS NONE SCALE NONE		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°			646.3900 SHEET 1 OF 1		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO35313**

Purchase Order Date 2/15/2017

PO Print Date 2/15/2017

Page Number 1 of 3

Order From :

VC-ALT01

Ship To : DART AEROSPACE LTD

GROUP ALTECH
2455 HALPERN

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
FEB 15 2017

ST LAURENT, MONTREAL H4S 1N9

Contact Name

Vendor Phone

514-335-3666

Ship To Contact

Ship To Phone

Ship Via:

FedEx Economy collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FOB Origin

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	155260 OAS 38 1-89	646.3910 SHIM	3/6/2017 Yes 3/6/2017		12.00	\$4.04	\$48.49
	CAD PLATE PER QQ-P-416, TYPE II, CL2						
	Line Total:						\$48.49
2	156217	646.3910 SHIM	3/6/2017 Yes 3/6/2017		12.00	\$4.04	\$48.49
	CAD PLATE PER QQ-P-416, TYPE II, CL2						
	Line Total:						\$48.49
3	156793	646.3910 SHIM	3/6/2017 Yes 3/6/2017		12.00	\$4.04	\$48.49
	CAD PLATE PER QQ-P-416, TYPE II, CL2						

Note:

2/15/2017



2455, Halpern, Saint-Laurent, QUÉBEC, H4S 1N9
Tel.: (514)335-3666 Fax.: (514)335-3868
Internet : www.groupaltech.com

Bon de livraison / Packing Slip
et / and
Certificat de conformité / Certificate of Compliance

Bon-Livraison / Pk.Slip # : 125173-1 22/02/2017
Bon-Commande. / W.Order # : 125173
Client P.O. # : PO35313
Transport :

Envoyé à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

Commandé par / Order by

DART AEROSPACE LTD (1427)
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

#	No. Job No. Réf	NoSerie / Part Number Nom Produit / Product	Traitement Process	Poids Weight	Qté Qty	Envoyé Sent	A venir BO
1	UNIT DAS 38 9-89	646.3910 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	12	12	0
2	UNIT	646.3910 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	12	12	0
3	UNIT	646.3910 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	12	12	0
4	UNIT	646.3912 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	10	10	0
5	UNIT	646.3912 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	12	12	0
6	UNIT	646.3912 Rev.	CADMIUM QQ-P-416F TY:2 CL:2 + HYDRO ENBRITAL RELIEF	0.00	15	15	0

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue
We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements
Our financial and legal responsibility will not be higher than the amount of invoice